



V CONGRESO INTERNACIONAL
DE INVESTIGADORES **AUDIOVISUALES**
Tecnología y Contenidos Digitales Aplicados 24-25 April 2014

Study on Eye Tracking Technique: Do digital media influence reading comprehension?

Bing Zhang
Elena Añaños

UAB

Universitat Autònoma
de Barcelona



Contents

1

Introduction

2

Methodology

3

Data analysis

4

Conclusions





Hot Tip

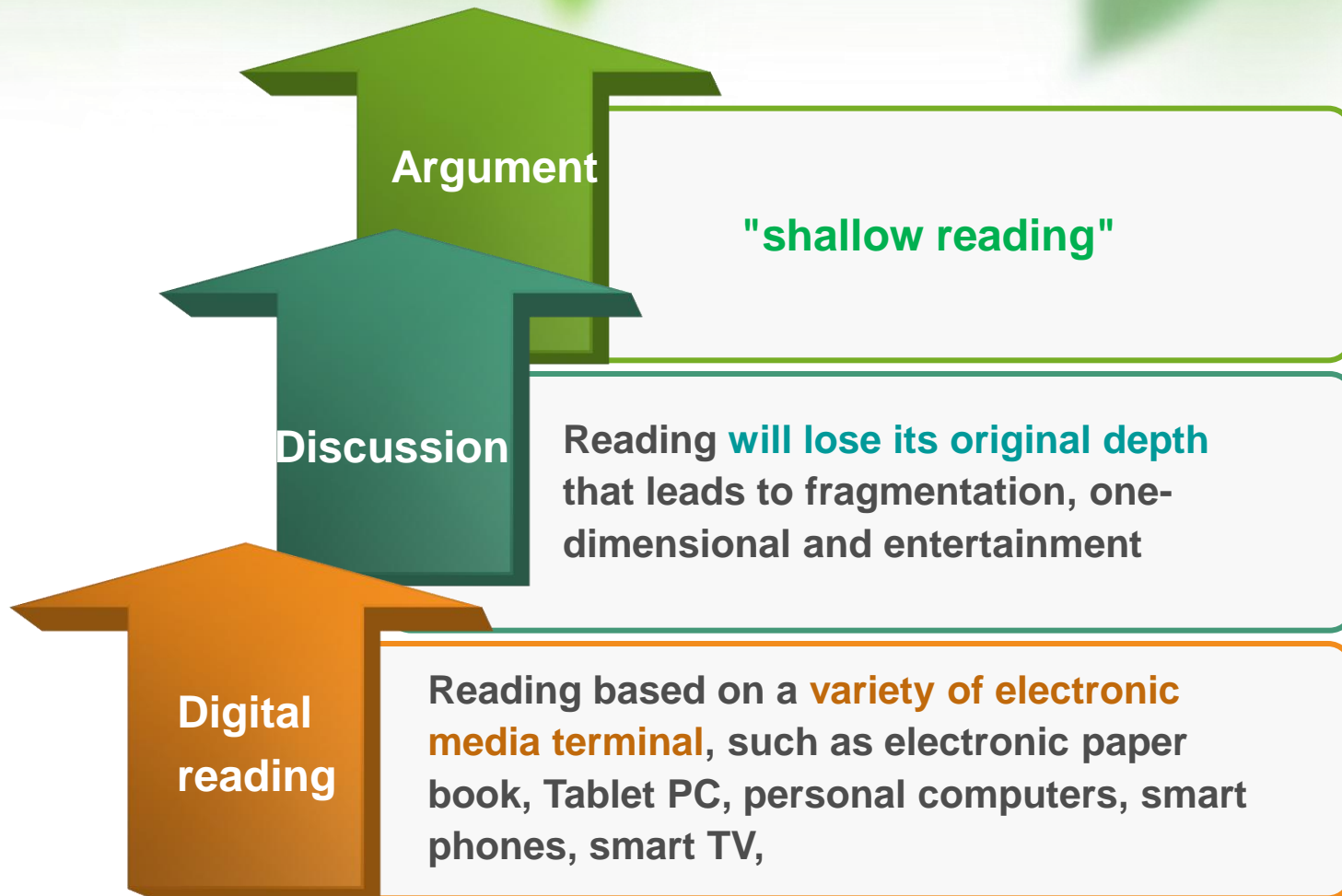


❖ Digital reading has become an important means of reading





Introduction

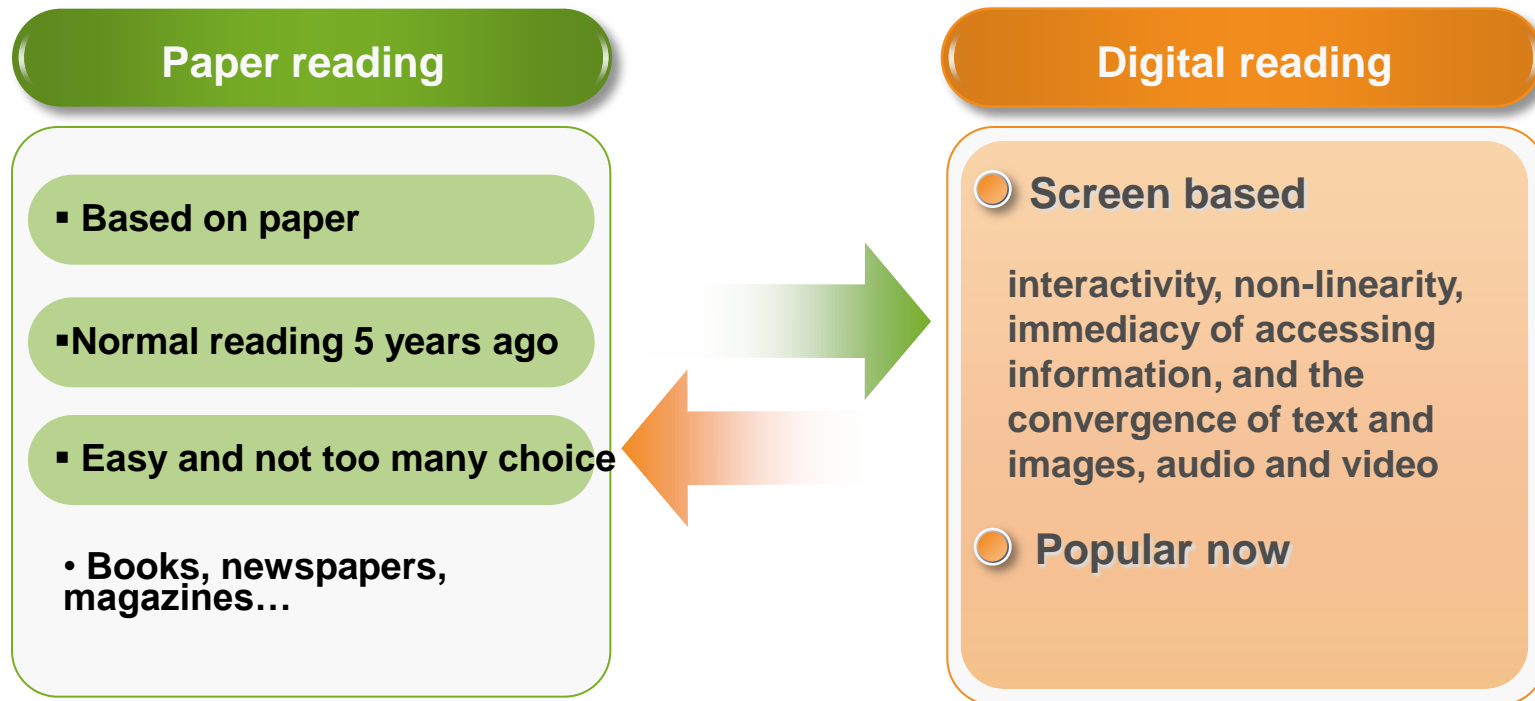




Introduction

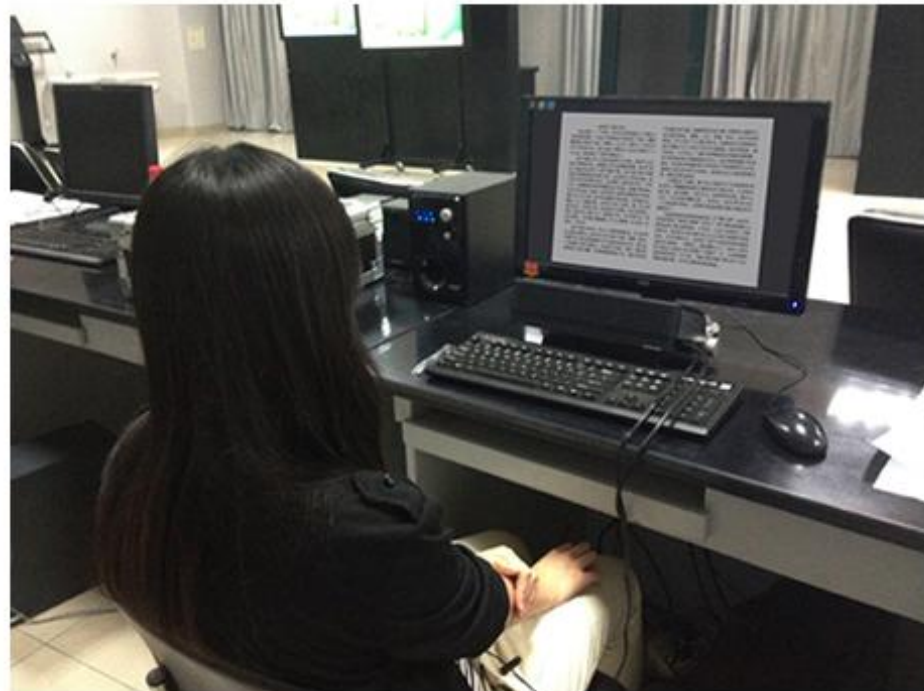
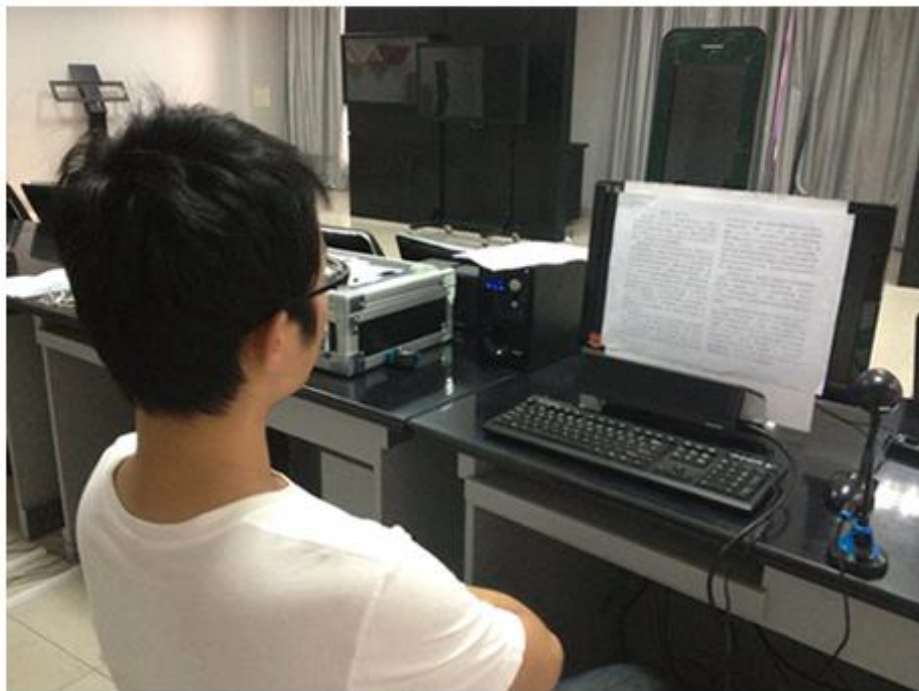


Comparison between digital reading and paper reading





Methodology

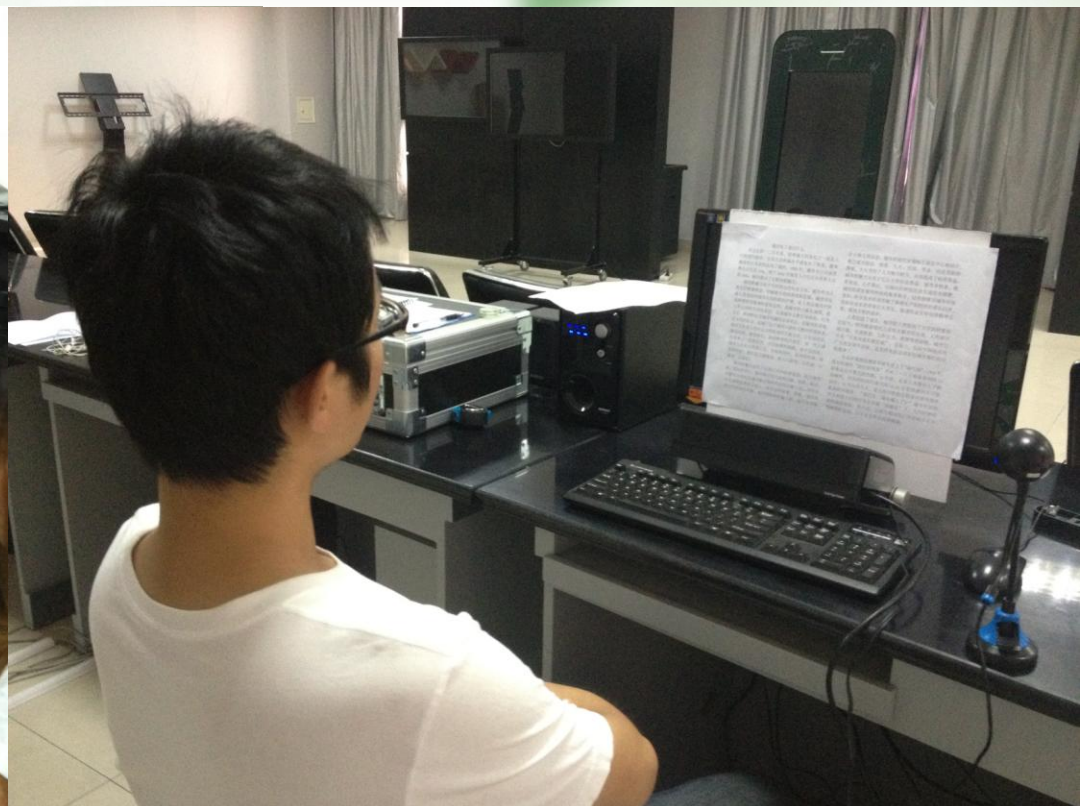


Read a 1000 words article, then answer 5 questions.





Methodology

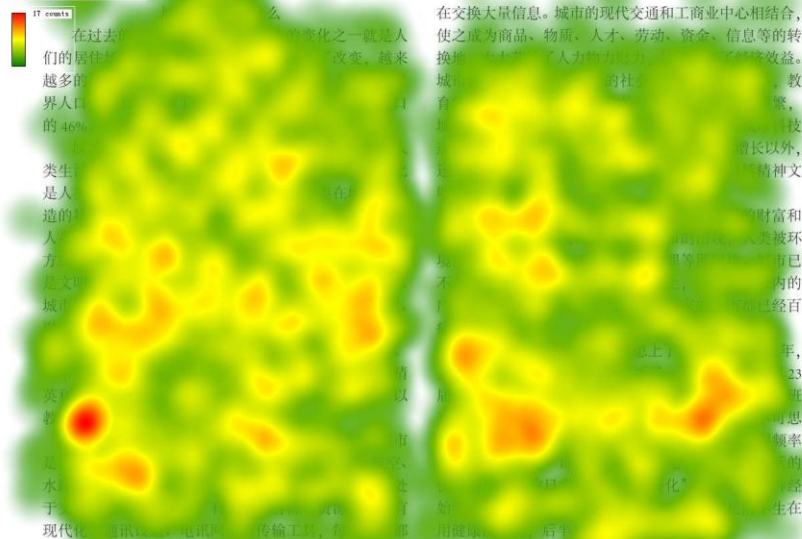




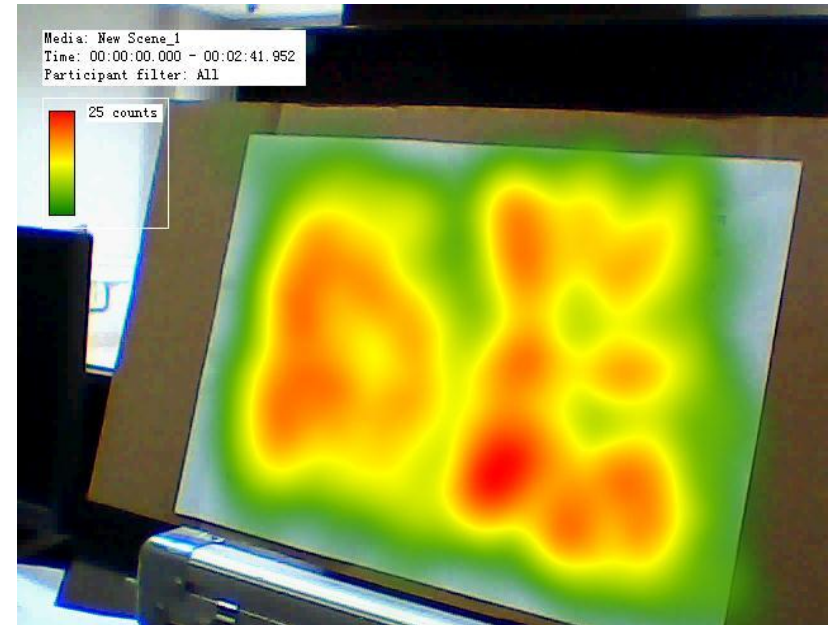
Data analysis

❖ The study of heat maps

Media: 2.jpg
Time: 00:00:00.000 - 00:03:14.731
Participant filter: All



DIGITAL



PAPER



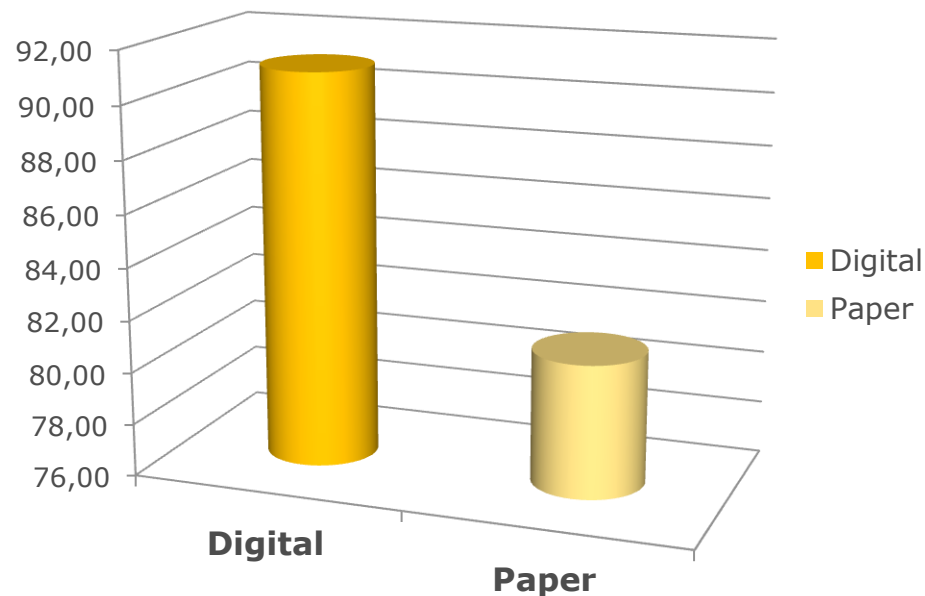


Data analysis



❖ The study of visual attention

Fixation durations (Seconds spent in digital and paper reading = times with Fixations)



ANOVA
 $p = .334 > 0.05$
NS

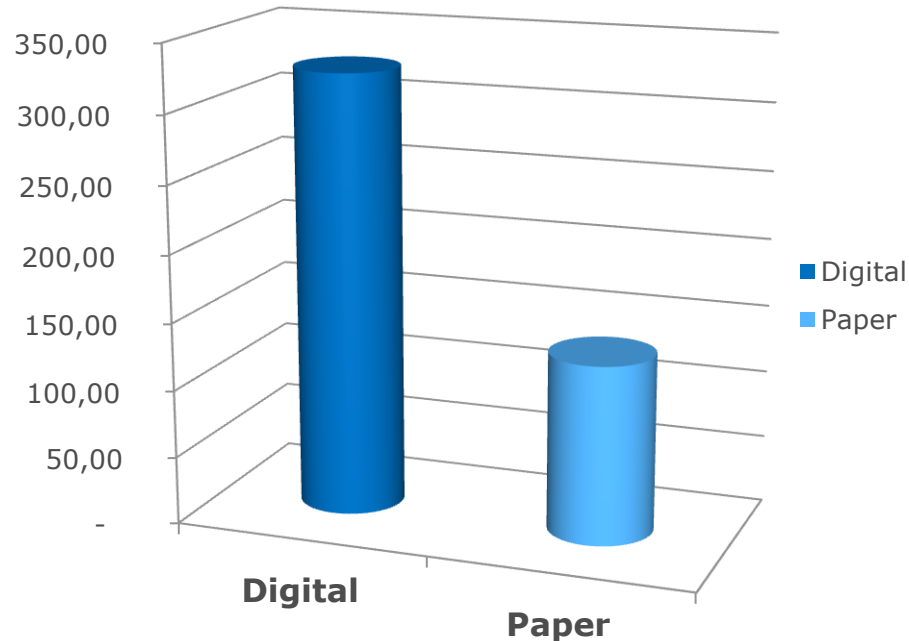




Data analysis

❖ The study of visual attention

Fixation number (average in each support)



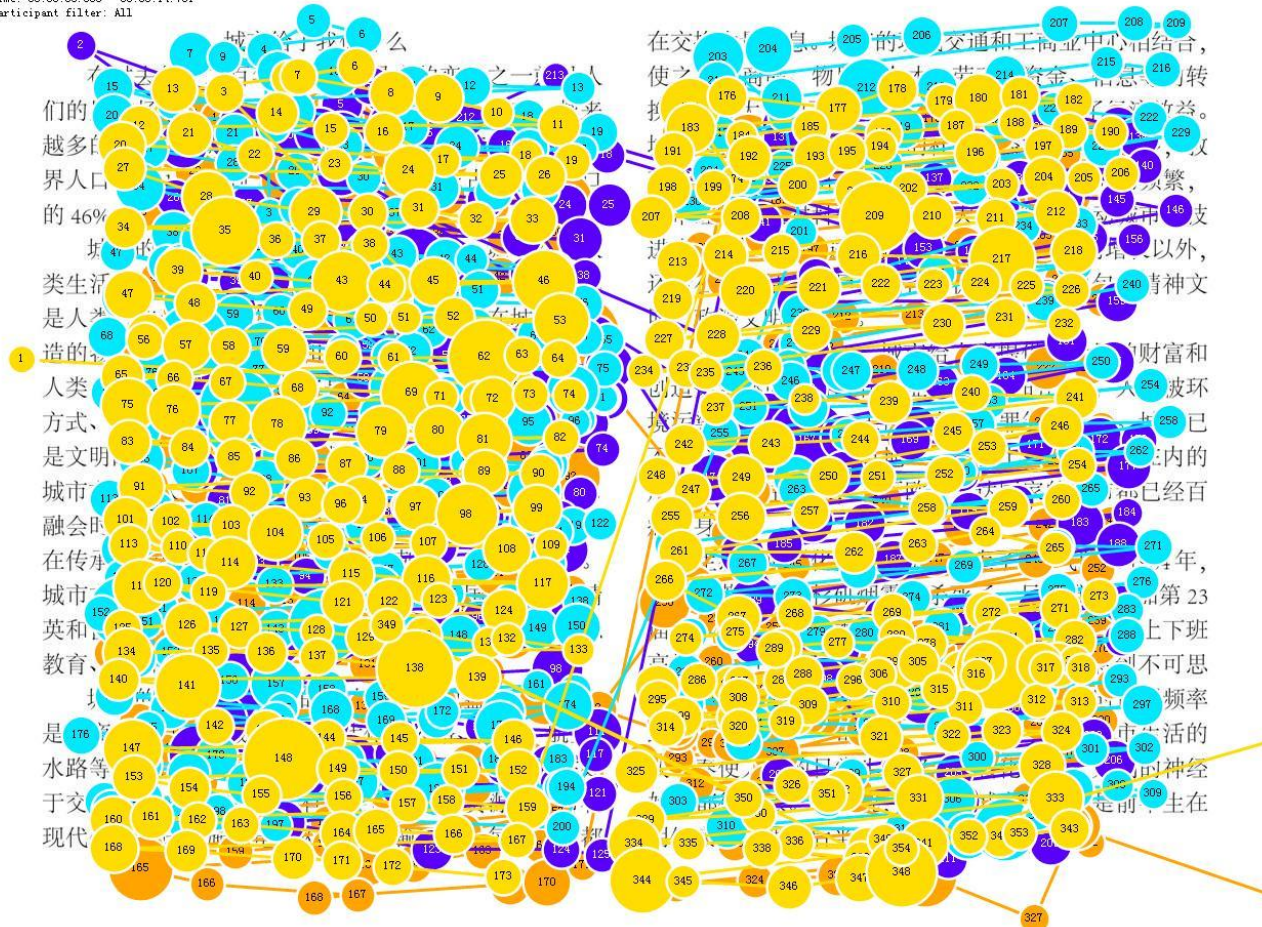
ANOVA
 $p = .000 < 0.05$
Significance!





❖ Digital reading orbit

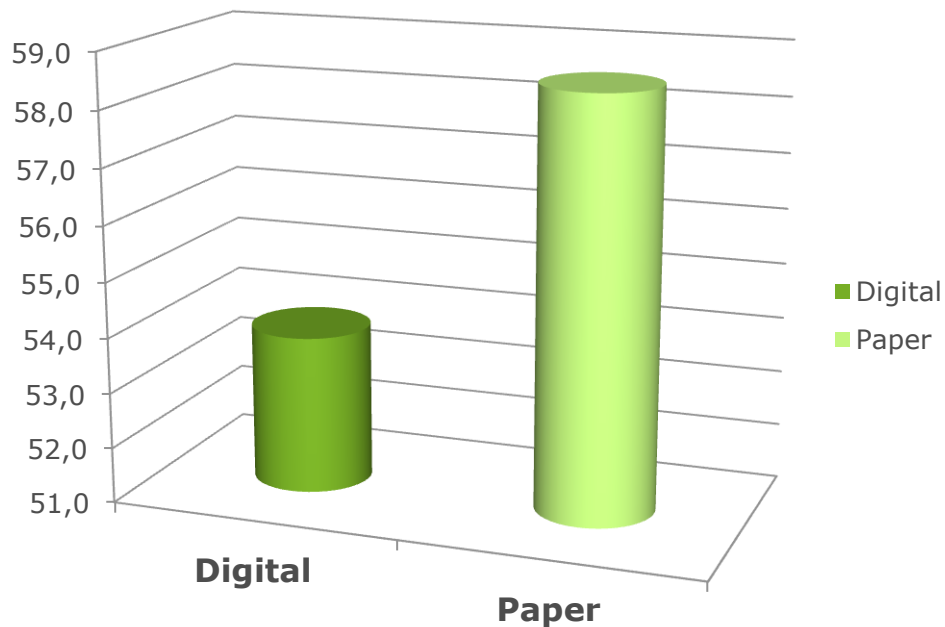
Media: 2.jpg
Time: 00:00:00.000 - 00:03:14.731
Participant filter: All





Data analysis

❖ The study of comprehension (%)



ANOVA
 $p = .449 > 0.05$
NS



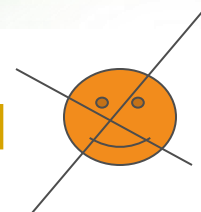


Conclusions

❖ Significant difference in hot spot map: **GH**



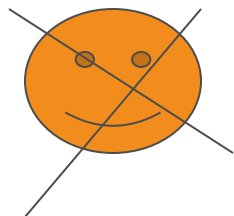
❖ No significant difference in fixation duration: **H1**



❖ Big significance in fixation times: **H1**



❖ No significant differences in Comprehension rate: **H2**



**Digital Media dosen't influences
reading conprehension!!!!**





Some References



- ❖ **Añaños, E.** (2011). Visual impact and eye fixation of non conventional advertising (NCA) on television among young people and the elderly. *Quaderns del CAC*, 37 (XIV), (2), 77-88. Retrieved the 25th of February of 2014 from:
http://www.cac.cat/pfw_files/cma/recerca/quaderns_cac/Q37_Ananos_EN.pdf
- ❖ **Añaños, E. & Astals, A.** (2013). ¿Imagen o texto? El poder de captar la atención de los elementos gráficos analizado con el Eye Tracker. *Gráfica*, 1 (2), 87-98. Retrieved the 25th of February of 2014 from: <http://revistes.uab.cat/grafica/article/view/v1-n2-ananos>
- ❖ **Birkerts, S.** (2006). *The Gutenberg elegies: The fate of reading in an electronic age*. London: MacMillan.
- ❖ **Yuan,Z. & Zhang,M.** (2011), Eye tracking analysis of Mobile newspaper advertising. *Science-Technology and Publication*, 8 (8), 68-71.



Acknowledgment!

Min Zhang

University of Shanghai
for Science and Technology



上海理工大学

University of Shanghai for Science and Technology



**Thank You for your
attention!**



UAB
Universitat Autònoma
de Barcelona